

ASSIGNMENT 4

Textbook Assignment: "Plumbing" (continued)" and "Plumbing Valves and Accessories," chapters 3 and 4, pages 3-36 through 4-18.

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| <p>4-1. One of the advantages of MAPP gas over acetylene is that one 70-pound cylinder of MAPP gas can do the work of more than how many 225-cubic-foot cylinders of acetylene?</p> <ol style="list-style-type: none">1. 5.52. 6.53. 7.54. 8.5 <p>4-2. In most cases, the welding tips used with acetylene are suitable for use with MAPP gas. How much larger should the tips be sized to get the best results from MAPP gas?</p> <ol style="list-style-type: none">1. One to two times2. Two to three times3. Three to four times4. One half to one time <p>4-3. What is the full-cylinder pressure of MAPP gas at 70°F?</p> <ol style="list-style-type: none">1. 15 psi2. 45 psi3. 75 psi4. 95 psi <p>4-4. When welding, you desire what color(s) of flame to be produced from MAPP gas and oxygen equipment?</p> <ol style="list-style-type: none">1. Very blue2. Greenish3. Slightly yellow4. Blue and yellow | <p>4-5. What are the three basic types of gas flames?</p> <ol style="list-style-type: none">1. Carburizing, biased, and neutral2. Counterboring, neutral, and oxidizing3. Neutral, oxidizing, and biased4. Oxidizing, neutral, and carburizing <p>4-6. Which of the following factors is a safety hazard when working with MAPP gas?</p> <ol style="list-style-type: none">1. Leaks hard to detect2. Explosive limits in air3. Frostlike burns from the liquid fuel4. Local eye or skin irritation <p>4-7. What size of oxygen cylinder is generally used for gas-welding and gas-cutting operations?</p> <ol style="list-style-type: none">1. 100 cubic foot2. 145 cubic foot3. 200 cubic foot4. 300 cubic foot <p>4-8. What is the function of an oxygen regulator?</p> <ol style="list-style-type: none">1. To reduce gas pressure to a usable working pressure2. To reduce working pressure to a usable gas pressure3. To withstand high pressures of working gases4. To increase gas pressure |
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- 4-9. On regulators designed for heavy cutting, the working pressure is graduated in psi from 0 to
1. 150
 2. 200
 3. 300
 4. 400
- 4-10. What are the two general types of welding torches?
1. Low pressure and medium pressure
 2. Balanced pressure and medium pressure
 3. High pressure and low pressure
 4. High pressure and medium pressure
- 4-11. Because it has explosive qualities, acetylene pressure must never exceed what maximum working pressure?
1. 10 psi
 2. 13 psi
 3. 15 psi
 4. 17 psi
- 4-12. What color are the hoses used for oxygen and MAPP gas?
1. Oxygen hose is yellow; MAPP gas hose is red
 2. Oxygen hose is green; MAPP gas hose is yellow
 3. Oxygen hose is yellow; MAPP gas hose is brown
 4. Oxygen hose is green; MAPP gas hose is red
- 4-13. Which of the following safety precautions should you observe in maintaining oxygen-MAPP welding equipment?
1. Do not use lubricants on any of the parts
 2. Keep oxygen away from water
 3. Use only trace amounts of oil to lubricate parts
 4. Use only government-approved grease
- 4-14. Filler rods are often copper-coated for which of the following reasons?
1. To better supply filler metal to the joint
 2. To protect them from corrosion during storage
 3. To allow them to be used on ferrous metals
 4. To allow them to be used on nonferrous metals
- 4-15. When securing oxygas welding equipment, you should close what valve first?
1. Oxygen regulator
 2. MAPP-gas regulator
 3. MAPP-gas needle
 4. Oxygen needle
- 4-16. If the needle valve of your welding torch does not shut off, you should take what action?
1. Use a wrench to get a tighter seat
 2. Loosen it by hand and then tighten the seat with a wrench
 3. Remove the stem assembly and then wipe the seat clean
 4. Replace the seat assembly

- 4-17. To recondition a torch tip, rub it back and forth across a
1. piece of emery cloth
 2. piece of cheesecloth
 3. piece of sandpaper
 4. fine file
- 4-18. The major cause of flashback at the torch consists of
1. needle valves that fail to seat
 2. a mixing-head seat that leaks
 3. regulator valves that leak
 4. torch valve stems that leak
- 4-19. Leaking between the regulator seat and nozzle caused by worn or cracked seats can be detected by what indication?
1. A gradual drop in working-pressure gauge
 2. A rise in the working-pressure gauge
 3. An inability to adjust the working-pressure gauge
 4. A torch flame that gradually starves
- 4-20. An acetylene bottle has been stored on its side. What minimum time should the bottle be in the upright position before it is used?
1. 1 day
 2. 6 hours
 3. 8 hours
 4. 12 hours
- 4-21. In which of the following systems is black iron NOT used?
1. Sewage
 2. Fuel oil
 3. Compressed air
 4. Hot-water heating
- 4-22. To what factor does the weight of galvanized pipe refer?
1. The wall thickness
 2. The weight per foot of length
 3. The number of support devices for hanging
 4. The maximum thread depth of fittings
- 4-23. You are installing a drainage system by using steel galvanized pipe. What type of fittings should you use?
1. Pressure
 2. Street
 3. Durham
 4. Plastic
- 4-24. Recessed fittings are designed in such a way that horizontal lines have how much pitch?
1. 1/8 inch per foot
 2. 1/4 inch per foot
 3. 1/2 inch per foot
 4. 5/8 inch per foot
- 4-25. Which of the following fittings should you use to change the direction of a pipeline 90 degrees when the use of a nipple and elbow is impractical?
1. Tee
 2. Union
 3. Y-branch
 4. Street elbow

4-26. What type of tee has three openings of the same diameter?

1. Reducing
2. Standard
3. Straight
4. Recessed

4-27. When connecting two pipes, you desire to obtain optimum drainage of the line by not having the pipes in line with each other. To accomplish this, you should use which of the following fittings?

1. Union
2. Reducer coupling
3. Eccentric reducer
4. Straight coupling

4-28. What fitting has both male and female threads and reduces the size of an opening?

1. Reducing coupling
2. Bushing
3. Nipple
4. Close nipple

4-29. When using the power vise to cut pipe, you should place the power switch in what position during cutting operations?

1. Forward
2. Reverse
3. On
4. Thread

4-30. Removing burrs from the inside of a freshly cut pipe is called

1. filing
2. reaming
3. boring
4. smoothing

4-31. During which of the following operations should you use plenty of cutting oil?

1. Cutting only
2. Reaming and cutting
3. Threading only
4. Cutting, reaming, and threading

4-32. When making up a threaded pipe joint, apply thread lubricant to the

1. female threads only
2. male threads only
3. male and female threads
4. inside of the pipe and female threads

4-33. You should have several unused threads on a properly threaded pipe for which of the following reasons?

1. They are cost effective
2. They allow for more tightening if the joint is not sealed
3. They compensate for overtightening
4. They prevent over-tightening the fitting

4-34. What type of pipe is corrosion-resistant, does not rust or rot, and can be cut with a carpenter's saw?

1. Cast-iron soil
2. Cement-asbestos
3. Vitrified clay
4. Galvanized steel

4-35. The specially designed coupling that connects lengths of cement-asbestos pipe has how many sealing rings?

1. One
2. Two
3. Three
4. Four

4-36. When laying ductile iron pipe, you should ensure that both the bell and plain ends are in what condition?

1. Square
2. Machined
3. Rough
4. Clean

4-37. Because of the high-impact strength of ductile iron, rocks and boulders in excess of what diameter must be removed from the backfill?

1. 6 inches
2. 8 inches
3. 10 inches
4. 4 inches

4-38. What is the most common joint used to connect two lengths of concrete pipe?

1. Gland
2. Mechanical
3. Lead
4. Slip joint

4-39. Flexibility in operating a water supply is provided by the proper selection of

1. pipe
2. fittings
3. valves
4. joining techniques

4-40. When installing a water system where frequent valves settings are required for flow regulation, you should use what type of valve?

1. Gate
2. Globe
3. Check
4. Pressure reducing

4-41. To close a butterfly valve, you must turn the handle one-quarter turn to rotate the disk what distance?

1. 30°
2. 50°
3. 75°
4. 90°

4-42. What is the primary purpose of a check valve?

1. To reduce the amount of liquid going through a line
2. To control the direction of flow through a line
3. To check the amount of residue going through a drain line
4. To drain condensate from steam, drain, and exhaust lines

4-43. When back pressure builds up, a swing- or lift-check valve performs which of the following functions?

1. It restricts the flow to a minimum
2. It partially closes
3. It stops the flow automatically
4. It maintains a continuous flow

4-44. In a pressure-reducing valve, which of the following devices may be used as a water seal between the valve inlet and the diaphragm chamber?

1. An aluminum ring
2. A neoprene O ring
3. A fiber packing ring
4. A graphite packing washer

4-45. When should a lift-check valve be used?

1. Full flow is desired
2. Frequent reversal of flow is expected
3. Limited operation of system is expected
4. Positive seating is less important

4-46. What is the theory behind the function of a pressure-reducing valve?

1. The supply pressure is at least as high as delivery pressure
2. The discharge pressure equals supply pressure
3. The discharge pressure exceeds supply pressure
4. The supply pressure never resists the flow

4-47. What feature of the spring-loaded pressure-reducing valve opens the main valve disk in spite of the entrance of water tending to close the main valve?

1. The low-pressure port
2. The high-pressure port
3. The larger surface of the main valve piston
4. The larger surface of the main valve disk

4-48. When the upper limit of pressure in a system may be exceeded, you should install what type of valve?

1. Globe
2. Check
3. Pressure reducing
4. Pressure relief

4-49. What forces hold the piston of the hydraulic control valve in a closed position?

1. Hydraulic pressure and friction
2. Spring tension and gravity
3. Line pressure and spring tension
4. Line pressure and hydraulic pressure

4-50. A valve is installed in the most desirable position when the valve stem is pointing in what direction?

1. Horizontally
2. Straight down
3. Straight up
4. Diagonally

4-51. You should use which of the following materials to spot-in a valve?

1. Red lead
2. Prussian blue
3. Lubricating oil
4. Grinding compound

4-52. In a properly ground-in valve, the contact area should cover approximately what fraction of the seating surface?

1. One fourth
2. One third
3. One half
4. Two thirds

4-53. When using pencil marks to spot-in a valve seat that has been refaced, you should place the marks on the seat at approximately what intervals?

1. 1 inch
2. 1/8 inch
3. 1/4 inch
4. 1/2 inch

4-54. When packing the gland of a valve, you should lay the string packing in what direction?

1. In the same direction that you would tighten the gland nut
2. In the direction opposite to that of the tightening of the gland nut
3. In the same direction that the valve turns
4. It does not matter what direction you use

4-55. What is the best way of correcting damage to a gate valve that has been caused by pitting or scoring?

1. By lapping
2. By grinding
3. By scoring
4. By burnishing

4-56. Post indicators are used for what purpose?

1. To distinguish fire valves from normal valves
2. To indicate an open or closed valve belowground level
3. To indicate the type of valve in use
4. To distinguish water valves from sewer manholes

4-57. Valves belowground are accessed through what device?

1. A manifold
2. A header
3. A valve cabinet
4. A valve box

4-58. When a straight-reading dial on a water meter reads 000782, you should record the reading in what manner?

1. 78.2000
2. 782.0000
3. 0.000782
4. 00000782

4-59. With a circular reading dial on a water meter, you should take what action when the scale you are reading is exactly on 1?

1. Let your reading be governed by the next higher scale
2. Let your reading be governed by the next lower scale
3. Suspect the meter; this cannot happen
4. Replace the meter with a straight-reading dial

4-60. Since the registers are never reset, you must determine the amount used for the current period in what manner?

1. By dividing the last recorded reading into the current reading
2. By multiplying the current reading by the last recorded reading
3. By subtracting the last recorded reading from the current reading
4. By adding the last recorded reading and the current reading

4-61. What type of fire hydrant is designed for use in freezing temperatures?

1. Dry barrel
2. Wet barrel
3. Double barrel
4. Single barrel

4-62. Which of the following methods should you use to prevent a fire hydrant from freezing?

1. Keep groundwater from backing up into the barrel
2. Keep the weep hole plugged at all times
3. Keep the drain valve open
4. Each of the above

4-63. What type of fire hydrant is generally installed where freezing temperatures do not occur?

1. Dry barrel, California
2. Dry barrel, foot valve
3. Wet barrel, California
4. California, foot valve

4-64. What should you do, if anything, to throttle the discharge from a fire hydrant?

1. Use a gate valve at the hydrant discharge outlet
2. Adjust the hydrant valve slowly
3. Use separate globe valves at the hydrant discharge
4. Nothing; hydrant discharge flow should never be regulated

4-65. Which of the following items should you use to air test a waterline, for leaks?

1. A soapy water solution
2. Chlorinated water
3. A hydrostatic hand pump
4. Soapstone

4-66. During testing you should repair a new waterline leak on which of the following occasions?

1. As each leak is located
2. After the line has been completely tested
3. At every 100 feet
4. Before the test pressure is relieved

4-67. You have conducted a water test. After all air is removed from the pipe and the water pressure is built up to operating pressure, you should allow the pipe to stand between 12 to 24 hours before inspecting it for leaks.

1. True
2. False

4-68. What is the first step in disinfecting a water system after it is installed?

1. Fill the lines with chlorine gas
2. Flush the system
3. Flush the system with hypochlorite solution
4. Flush the system with hypochloric acid

4-69. The chlorine dosage for ensuring complete disinfection of a waterline depends upon which of the following factors?

1. The amount of jute and untarred hemp in the system
2. The organic chlorine-consuming material present
3. The length of time the chlorine is in contact with the water
4. Each of the above

4-70. What is the volume of water in a 20-foot pipe of 6-inch diameter?

1. 29.40 gallons
2. 16.32 gallons
3. 14.70 gallons
4. 12.08 gallons

4-71. Because of the possibility of severe corrosion and hazardous leakage, which of the following safety precautions should you observe when using a portable gas chlorinator?

1. Never use it below the room temperature of 68°F
2. Never connect it directly to the main line
3. Use rubber connections and lines
4. Each of the above

4-72. Before disinfecting a water system, flush it with water at a minimum flow velocity of

1. 6 feet per second
2. 2 feet per second
3. 3 feet per second
4. 4 feet per second

4-73. Defective piping has been replaced in a section of a water-supply system. After the main has been thoroughly flushed, you should feed chlorine disinfectant into the water main for what length of time?

1. Until all the predetermined dosage has been added
2. Until the desired amount of chlorine residual is in the water at the discharge end of the main
3. At least 24 hours
4. Until all air pockets have been bled from the main

4-74. Vertical fixture risers must be supported at a change of direction and at

1. each floor level
2. 4-foot intervals
3. 3-foot intervals
4. every other floor level

4-75. To prevent belowground water mains from separating under pressure, what devices should you install?

1. Hangers
2. Thrust bars
3. Thrust blocks at each pipe joint
4. Thrust blocks at all changes in the direction of water flow